UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/990,916	11/16/2001	Mark T. Feuerstraeter	42390P11857	3507

			EXAMINER

8791   7590   01/11/2007
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EXAMINER
DALENCOURT, YVES

ART UNIT	PAPER NUMBER
2157	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/11/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

PTOL-90A (Rev. 10/06)

Office Action Summary	Application No.	Applicant(s)
	09/990,916	FEUERSTRAETER ET AL.
	Examiner	Art Unit	
	Yves Dalencourt	2157	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 October 2006*.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *30-47* is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *30-43 and 45* is/are rejected.

7)☒ Claim(s) *44,46 and 47* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☐ All   b)☐ Some * c)☐ None of:

       1.☐ Certified copies of the priority documents have been received.

       2.☐ Certified copies of the priority documents have been received in Application No. _____.

       3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *5/22/06*.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____ .

DETAILED ACTION

This office action is responsive to amendment filed on 10/20/2006.

Response to Amendment

The Examiner has acknowledged the amended claims 30, 38, 39, and 43.

Response to Arguments

Applicant's arguments with respect to claims 30 - 47 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

Claim 43 is objected to because of the following informalities: It is suggested to delete " apparatus " (line 7), and insert --- control logic ----. Appropriate correction is required.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 30 – 47 are rejected under 35 U.S.C. 102(b) as being anticipated by Timm et al (US 6,055,268; hereinafter Timm).

Regarding claim 30, Timm a method comprising the steps of identifying a communication capability of a remote device (col. 7, lines 2 – 5; col. 11, line 53 through col. 12, line 7; col. 18, lines 29 - 64); automatically aggregating multiple media access

controllers (MACs), based at least in part, on the identified communication capability of

the remote device, to establish a virtual data-sub channel within a physical data channel

for communication between a communication interface and the remote device (fig. 7a;

col. 7, lines 16 – 32; col. 18, lines 49 – 64; col. 23, lines 20 – 57; Timm discloses that

after the initial channel probing period, the MDSL modem at the subscriber-end has

determined the line code capability of the central office end modem and has a channel

model for the downstream band and, similarly, the MDSL modem at the central office

end has determined the line code capability of the subscriber-end modem and has a

channel model for the upstream); determining whether a data rate of the virtual sub-

channel is compatible with the communication capability of the remote device (col. 5,

line 66 through col. 6, line 19; col. 18, line 65 through col. 19, line 4; col. 22, line 51

through col. 23, line 13); reducing the data rate of the virtual sub-channel if the data rate

is not compatible with the communication capability of the remote device (col. 5, line 66

through col. 6, line 64; col. 21, lines 26 – 48; col. 23, lines 26 – 67; Timm discloses that

the data rate can be adapted by the negotiation method to a suitable level, by

considering the capability of a particular DSL connection, available computational

power, and any special application program requirements).

Claim 39 substantively incorporates the limitations of claim 30, but in computer

software form. The reasons for the rejection of claim 30 apply to claim 39.

Regarding claim 31, the Examiner takes **Official Notice** that having an IEEE

802.3ae compliant communication link, with a data channel of 10 gigabit per second

(Gb/s) is well known Ethernet standard in the art.

Regarding claim 32, Timm teaches a method according to claim 30, wherein

identifying a communication capability of the remote device comprises the steps of

sending a capability request (col. 18, lines 40 - 48); and receiving a response to the

request denoting at least the communication capability of the remote device (col. 18,

line 49 through col. 19, line 11).

Regarding claim 33, Timm teaches a method according to claim 30, wherein

identifying a communication capability of the remote device comprises the steps of

receiving an indication from the remote device denoting the communication capability of

the remote device (col. 18, line 49 through col. 19, line 11; col. 27, lines 11 - 16; Timm

discloses that the MDSL modem at the subscriber-end sends its rate capabilities and its

preference).

Regarding claim 34, Timm teaches a method according to claim 33, wherein the

indication also denotes a processing capability of the remote device (col. 18, line 49

through col. 19, line 11).

Regarding claim 35, Timm teaches a method according to claim 30, wherein the

communication capability of the remote device is obtained by the communication

interface through a negotiation process (col. 18, line 49 through col. 19, line 11).

Regarding claim 36, Timm teaches a method according to claim 30, wherein

establishing the virtual data sub-channel within a physical Ethernet data channel

comprises establishing a sub-10 gigabit per second (Gb/s) virtual data channel within a

physical 10Gb/s data channel (col. 23, lines 23 – 43; col. 24, lines 1 – 65; Timm

discloses that the Software Driver Layer 7310, 7410 views the connection as a virtual

channel called the data link channel (DLC). For convenience, the DLC may be a frame

structure that represents multiple N kbit/sec channels (N=16 e.g.). The table entries

show the achievable transmission throughputs in kilobits/second for a given rate R and

N bits represented by each symbol. Thus, the number N of kilobits/second channels is

based on processing capability of the device). Also, Timm teaches an auto-negotiation

feature/step. Auto-negotiation feature/step allows devices to communicate at the

highest available rate of a device below its maximum capacity, which would be sub-

10Gbs.

Regarding claim 37, Timm teaches a method according to claim 30, wherein

reducing the data rate of the virtual sub-channel comprises inserting idle control

elements between substantive frames of a data stream of the virtual sub-channel (col.

48, lines 39 - 49).

Claim 40 substantively incorporates the limitations of claim 36, but in computer

software form. The reasons for the rejection of claim 36 apply to claim 40.

Claim 41 substantively incorporates the limitations of claim 34 and 35, but in

computer software form. The reasons for the rejection of claim 34 and 35 apply to claim

41.

Claim 43 substantively incorporates the limitations of claims 30 and 36, but in

apparatus form rather than in method form. Claim 43 cites a control logic, to identify a

communication capability of a remote device communicatively coupled with the control

logic through a communication link [See the discussion of claim 30. "A control logic" is

merely a means to identify the communication capability in claim 30]; a plurality of

media access controllers (AM Cs), responsive to the control logic, automatically

aggregated by the control logic to establish either a 10 gigabit per second (Gb/s)

physical channel or a sub-10 Gb/s virtual channel within the 10 Gb/s physical channels

to facilitate communication from the apparatus to the remote device based, at least in

part, on the identified communication capability of the remote device, wherein the

control logic further determines whether a data rate of the established channel is

compatible with the communication capability of the remote device and cause the

aggregation of MACs to reduce the data rate of the established channel if the data rate

is not compatible with the communication capability of the remote device. See claim 30

and claim 36 for the substantive discussion of the limitation.

Claims 38, 42, and 45 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Timm et al (US 6,055,268; hereinafter Timm) in view of "802.3ae 5

Criteria" (which was referenced by "Chair's Introductory Remarks" at IEEE 802.3

10Gb/s Task Force July 2000 Plenary Week, July 11-12, 2000) and "XAUI/XGXS

Proposal" presentation at IEEE 802.3 10Gb/s Task Force May 2000 Interim Meeting

Plenary Week, July I 1-12, 2000,

With regard to claim 38, Timm does not teach automatically aggregating 1Gb/s

media access controllers (MACs) to establish the virtual sub-channel; and dynamically

multiplexing the 1Gb/s MACs to appropriate channels of an attachment unit interface

(AUI). Timm teaches multiple MACS with which to establish the virtual channel and

dynamically multiplexing them. Note that Timm does not use the specific bandwidth

specified in the claim for each MAC.

At this point, in order to make the prima facie argument that claim 38 should be rejected under 103(a), the Examiner must show the reason why one would select 1Gb/s and 10 Gb/s MACs.

The reason for the selection of the size of bandwidth of 1 Gb/s flow from further consideration of the compatibility question: what 802.3 compliant sub- 10Gb/s data channel interface bandwidths are most commercially popular and would likely must co-exist (i.e., compatible) with to 802.3ae?

It would have been obvious to one skilled in the art at the time of the invention to choose 1Gb/s channels, because that is the next fastest IEEE 802.3 standard for Ethernet. If anyone were to upgrade their Ethernet interfaces, those would most likely be upgrading from bandwidths in multiple of 1Gb/s.

Claim 42 substantively incorporates the limitations of claim 38, but in computer software form. The reasons for the rejection of claim 38 apply to claim 42.

Claim 45 substantively incorporates the limitations that are similar to those in claim 38, but in slightly different wording and in apparatus form. The reasons for the rejection of claim 38 still apply to claim 45.

Allowable Subject Matter

Claims 44, 46, and 47 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.
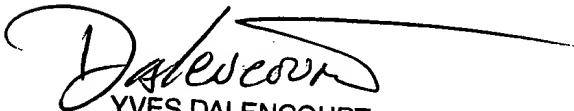
Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yves Dalencourt whose telephone number is (571) 272-3998. The examiner can normally be reached on M-TH 7:30AM - 6: 00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on (571) 272-4001. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

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you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

January 2, 2007

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